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It should be noted that, in practice, motors are often found in which the air gaps are considerably enlarged as a result of wear on the rotor surface, and the "permissible" wear in these cases is largely based upon the "average" values for air gaps.

Analysis of curves showing the variation in no-load current as a function of air gap reveals that reactive no-load power increases quite rapidly as the gap enlarges. Therefore, in view of the importance of this factor to power economy, and the general lack of systematized published data on the various motors in use, an extensive table of air-gap dimensions has been compiled to serve as a guide. [Note: nominal air gap, motor type, rpm, and power range for over 100 induction motors, the majority for two or three rated speeds, are available in original document in CIA.]

At the Scientific and Technical Session of the Moscow Scientific and Technical Society of Power Engineering on Maintenance of Electric Equipment of Industrial Enterprises, held in Moscow in 1946, it was pointed out that the advisability of repairing motors whose air gaps had increased by more than 15 percent was open to question. Undoubtedly, this statement is too cautious. The operation of motors with sharply increased air gaps leads to a correspondingly inadmissible deterioration in the technical and economic characteristics of electric power utilization, and should, therefore, be permitted only in special cases.

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